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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,823	04/03/2002	Nicholas D Hutchins	2520/3	5596

7590

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Charles C Valauskas
Baniak Pine & Gannon
150 North Wacker Drive
Suite 1200
Chicago, IL 60606

EXAMINER

NEGRON, ISMAEL

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/089,823	Applicant(s) HUTCHINS ET AL.	
	Examiner Ismael Negron	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-14, 17-19, 29, 30 and 32-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-14, 17-19, 29, 32-41, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 42-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on January 14, 2004 has been entered. Claims 1-8, 10-14, 18, 19 and 29 have been amended. Claims 9, 15, 16, 20-28 and 31 have been cancelled. Claims 32-46 have been added. Claims 1-8, 10-14, 17-19, 29, 30 and 32-46 are still pending in this application, with claims 1, 30, 32 and 41 being independent.

Abstract

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required. See MPEP § 608.1(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 45 and 46 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 45 is indefinite as it is not clear what the limitation "said channel is embedded below grade" is intended to define.

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Claim 46 is indefinite as it is not clear what the limitation "said channel is embedded above grade" is intended to define.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 10-14, 17-19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over MISTOPOULOS et al. (U.S. Pat. No. 6,113,248).

Mistopoulos et al. discloses an illumination device having:

- **a plastic enclosure**, Figure 1, reference number 10;
- **the plastic enclosure having a discrete length**, inherent;
- **a plurality of electronic devices**, Figure 2, reference numbers 17 and 24;
- **an elongated support embedded in the plastic enclosure**, Figure 2, reference number 14;
- **the elongated support being for supporting the electronic devices**, as seen in Figure 2;

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- **a pair of electrical conductors connected to the electronic devices**, Figure 2, reference number 15a and 15b;
- **the electronic devices, elongated support and electrical conductors being enclosed within the plastic enclosure**, column 3, lines 45-54;
- **the electronic devices being light emitting diodes (LED)**, Figure 2, reference number 17;
- **the electronic devices being selected from LED, light-emitting plastic compositions, polymers or organic substances, sensors, lighting systems, piezoelectric devices, incandescent bulbs, laser diodes and electro-luminescent devices**, column 3, line 48;
- **the electrical conductors having a length less than that of the module**, column 4, lines 16 and 17;
- **the electrical conductors are adapted to be connected to an external power source**, as shown in Figure 13;
- **the module having a non-planar shape**, as shown in Figures 3 and 8;
- **at least one LED having a lensing device for directing light**, inherent;
- **at least one LED being laterally oriented from the longitudinal plane of the module**, Figure 2, reference number 17;

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- **the elongated support being metallic**, column 4, lines 47-56;
- **the elongated support being a heat sink**, inherent;
- **the module having a continuous electrical circuit through its length**, inherent; and
- **an electrically passive module**, Figures 14 and 15.

Mistopoulos et al. discloses all the limitations of the claims, except the complete circuit structure being fully enclosed within the plastic enclosure, the power source being an internal power source, and including piezoelectric devices or solar panels, and batteries or capacitors.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to fully enclose the complete circuit structure within the plastic enclosure to protect such structure from being damaged by moisture as evidenced by Mistopoulos et al. (see column 8, lines 29-35).

In addition, the Examiner takes Official Notice that the use of solar panels in combination with batteries is old and well known in the art. One of ordinary skill in the art would have been motivated to add such solar panel/ battery combination to the illumination device of Mistopoulos et al. to obtain a portable illumination device with a long lasting power source independent from external connections. See Section 9 of the instant Office Action.

5. Claims 32-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over MISTOPOULOS et al. (U.S. Pat. No. 6,113,248).

Mistopoulos et al. discloses an illumination device having :

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- **a plastic enclosure**, Figure 1, reference number 10;
- **a plurality of light-emitting devices**, Figure 2, reference numbers 17 and 24;
- **an elongated support embedded in the plastic enclosure**, Figure 2, reference number 14;
- **the elongated support being for supporting the light-emitting devices**, as seen in Figure 2;
- **a pair of electrical conductors connected to the light-emitting devices**, Figure 2, reference number 15a and 15b;
- **the light-emitting devices, elongated support and electrical conductors being enclosed within the plastic enclosure**, column 3, lines 45-54;
- **the electronic devices being light emitting diodes (LED)**, Figure 2, reference number 17;
- **the elongated support having a non-planar shape**, as shown in Figures 3 and 8;
- **at least one LED being laterally oriented from the longitudinal plane of the module**, Figure 2, reference number 17; and
- **the elongated support being a heat sink**, column 4, lines 47-56.

Mistopoulos et al. discloses all the limitations of the claims, except the complete circuit structure being fully enclosed within the plastic enclosure.

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It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to fully enclose the complete circuit structure within the plastic enclosure to protect such structure from being damaged by moisture as evidenced by Mistopoulos et al. (see column 8, lines 29-35).

Regarding the plurality of LED being associated with a plurality of reflectors embedded within the enclosure, the Examiner takes Official Notice that the use of reflective elements in combination LED is not only old and well known in the art, but a standard practice. One of ordinary skill in the art would have recognized that the overwhelming majority of LED include a reflector for increasing the efficiency of such LED by directing the light from the LED chip.

6. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over SEARS et al. (5,222,799) in view of MISTOPOULOS et al. (U.S. Pat. No. 6,113,248).

Sears et al. Discloses an illumination device having :

- **a channel member**, Figure 3, reference number 30;
- **the channel member including a pair of electrical source connectors**, , Figure 3, reference number 39;
- **one or more elongated lighting modules**, Figure 3, reference number 34;
- **the modules being sized and shaped to be received within the channel member**, inherent;
- **an elongated support**, Figure 3, reference number 34;

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- **one or more light-emitting devices**, Figure 3, reference number 33;
- **the light-emitting devices being positioned on the elongated support**, column 3, lines 6 and 7;
- **electrical conductors being connected to the light-emitting devices**, column 2, lines 31-33; and
- **the electrical conductors making contact with the electrical source connectors**, column 3, lines 14-16.

Sears et al. discloses all the limitations of the claims, except the modules being formed of a plastic enclosure encapsulating the lighting circuit.

Mistopoulos et al. discloses an illumination device having :

- **a plastic enclosure**, Figure 1, reference number 10;
- **a plurality of light-emitting devices**, Figure 2, reference numbers 17 and 24;
- **an elongated support embedded in the plastic enclosure**, Figure 2, reference number 14;
- **the elongated support being for supporting the light-emitting devices**, as seen in Figure 2;
- **a pair of electrical conductors connected to the light-emitting devices**, Figure 2, reference number 15a and 15b;

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- **the light-emitting devices, elongated support and electrical conductors being enclosed within the plastic enclosure,**
column 3, lines 45-54;
- **the electronic devices being light emitting diodes (LED),** Figure 2, reference number 17;
- **the elongated support having a non-planar shape,** as shown in Figures 3 and 8;
- **at least one LED being laterally oriented from the longitudinal plane of the module,** Figure 2, reference number 17; and
- **the elongated support being a heat sink,** column 4, lines 47-56.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the plastic encapsulated modules of Mistopoulos et al. as the modules of Sears et al. to provide the LED with increased protection against socks and moisture penetration as suggested by Mistopoulos et al. (see columns 2 and 3, lines 52-63 and 54-68, respectively)

Allowable Subject Matter

7. Claim 30 is allowed.
8. Claims 42-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. The following is a statement of reasons for the indication of allowable subject matter:

Applicant teaches a modular LED lighting system including a plurality of LED disposed on an elongated support, and a power source having an embedded magnetic core and coiled wire. Inducing a voltage on the core/coil combination energizes the module. All the electrical circuit components are integrally molded into discrete modules made of a plastic material. A channel member might be used to receive the modules, such member having a central support with a pair of electrical connectors being separated from each other by such support.

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically an LED module energized by inducing a voltage on an integrally molded core/coil combination, or the modules being received in a channel member having a central support with a pair of electrical connectors being separated from each other by such support .

Response to Arguments

10. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

No arguments were presented regarding claims 2-8, 10-14, 17-19 and 29 other than stating the such claims are dependent from independent claim 1 and should be allowed when/if such claim is allowed.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negrón whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached at (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.


Inr

April 28, 2004



THOMAS M. SEMBER
PRIMARY EXAMINER